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DEPARTMENT OF EDUCATION

34 CFR Chapter III

CFDA Number: 84.133A-1

Final Priority; National Institute on Disability and Rehabilitation Research--Disability and Rehabilitation Research Projects--Inclusive Cloud and Web Computing

AGENCY: Office of Special Education and Rehabilitative Services, Department of Education.

ACTION: Final priority.

SUMMARY: The Assistant Secretary for Special Education and Rehabilitative Services announces a priority under the Disability Rehabilitation Research Projects and Centers Program administered by the National Institute on Disability and Rehabilitation Research (NIDRR).

Specifically, this document announces a priority for a Disability Rehabilitation Research Project (DRRP) on inclusive cloud and Web computing. The Assistant Secretary may use this priority for a competition in fiscal year (FY) 2013 and later years. We take this action to focus research attention on areas of national need. We intend this priority to improve outcomes for individuals with disabilities.

EFFECTIVE DATE: This priority is effective [INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

FOR FURTHER INFORMATION CONTACT: Marlene Spencer, U.S. Department of Education, 400 Maryland Avenue, SW., room 5133, Potomac Center Plaza (PCP), Washington, DC 20202-2700. Telephone: (202) 245-7532 or by email: marlene.spencer@ed.gov.

If you use a telecommunications device for the deaf (TDD) or a text telephone (TTY), call the Federal Relay Service (FRS), toll free, at 1-800-877-8339.

SUPPLEMENTARY INFORMATION:

Purpose of Program: The purpose of the Disability and Rehabilitation Research Projects and Centers Program is to plan and conduct research, demonstration projects, training, and related activities, including international activities, to develop methods, procedures, and rehabilitation technology that maximize the full inclusion and integration into society, employment, independent living, family support, and economic and social self-sufficiency of individuals with disabilities, especially individuals with the most severe disabilities, and to improve the effectiveness of services authorized under the Rehabilitation Act of 1973, as amended (Rehabilitation Act).

## Disability and Rehabilitation Research Projects

The purpose of NIDRR's DRRPs, which are funded through the Disability and Rehabilitation Research Projects and Centers Program, is to improve the effectiveness of services authorized under the Rehabilitation Act, by developing methods, procedures, and rehabilitation technologies that advance a wide range of independent living and employment outcomes for individuals with disabilities, especially individuals with the most severe disabilities. DRRPs carry out one or more of the following types of activities, as specified and defined in 34 CFR 350.13 through 350.19: research, training, demonstration, development, dissemination, utilization, and technical assistance.

An applicant for assistance under this program must demonstrate in its application how it will address, in whole or in part, the needs of individuals with disabilities from minority backgrounds (34 CFR 350.40(a)). The approaches an applicant may take to meet this requirement are found in 34 CFR 350.40(b).

Additional information on the DRRP program can be found at: <http://www2.ed.gov/rschstat/research/pubs/res-program.html#DRRP>.

Program Authority: 29 U.S.C. 762(g) and 764(a).

Applicable Program Regulations: 34 CFR part 350.

We published a notice of proposed priority for this program in the Federal Register on January 15, 2013 (78 FR 2919). That notice contained background information and our reasons for proposing the particular priority.

There are differences between the notice of proposed priority and this notice of final priority as discussed in the Analysis of Comments and Changes section in this notice. In addition, we inadvertently stated in the Summary section of the notice of proposed priority, that we intend this priority to contribute to improved employment outcomes for individuals with disabilities. NIDRR did not intend to convey that this priority is focused exclusively on employment outcomes for individuals with disabilities. We have corrected the summary statement in this notice.

Public Comment: In response to our invitation in the notice of proposed priority, four parties submitted comments.

Generally, we do not address technical and other minor changes, or suggested changes the law does not authorize us to make under the applicable statutory authority. In addition, we do not address general comments that raised concerns not directly related to the proposed priority.

Analysis of Comments and Changes: An analysis of the comments and of any changes in the priority since publication of the notice of proposed priority follows.

Comment: One commenter suggested the priority address natural language processing and ways to determine how to make Web content and interactions easier to understand for individuals with mental disabilities. Specifically, the commenter suggested research on: ways to assess perceptions of individuals with mental disabilities, the effects of technology across multiple life contexts, and understandable cloud and Web computing languages.

Discussion: Determining how to make Web content and interactions easier to understand for individuals with mental disabilities is consistent with the proposed priority, which requires the DRRP to contribute to the development of an inclusive cloud and Web infrastructure that incorporates options for disability access within its general structure. Nothing in the priority would preclude an applicant from proposing research in this area.

However, NIDRR does not wish to further specify the research and development areas or target populations, because we do not want to limit the number and breadth of applications submitted under this priority. The peer review process will determine the merits of each proposal.

Change: None.

Comment: One commenter suggested the priority require the inclusion of individuals with disabilities on the teams that develop the cloud and Web technologies contemplated by the priority. In this context, the commenter also suggested that the proposed teams address authentication technology, such as easy-to-understand processes for logging onto the Web.

Discussion: NIDRR agrees that it is important for its grantees to include individuals with disabilities in research and development plans and activities. The General Disability and Rehabilitation Research Projects Requirements priority (71 FR 25472), which we apply to all DRRP competitions, requires that DRPPs "involve individuals with disabilities in planning and implementing the DRPP's research, training, and dissemination activities, and in evaluating its work." This requirement allows all applicants the flexibility to propose how they will include individuals with disabilities in their activities.

The specific research and development topic suggested by the commenter--authentication technology--is consistent with the proposed priority, which requires the DRRP to contribute to the development of an inclusive cloud and Web infrastructure that incorporates options for disability

access within its general structure. The peer review process will determine the merits of each proposal.

Change: None.

Comment: One commenter suggested that the priority address the creation of inclusive, cross-platform, Web-based applications that can be modified easily in response to user accessibility issues, as well as the development of tools to support testing user interfaces in leisure contexts.

Discussion: The topics suggested by the commenter are generally consistent with the priority. The priority requires the DRRP to contribute to the development of an inclusive cloud and Web infrastructure that incorporates options for disability access within its general structure, which would include modifiable options. Further, nothing in the priority would preclude an applicant from proposing research on user interfaces related to engagement in leisure activities. The peer review process will determine the merits of each proposal.

Change: None.

Comment: One commenter suggested that the priority address information management topics, including how to manage user profiles and accessibility options over time, as technology evolves. The commenter noted that research on information

management by individuals with disabilities and those in their support circles is needed to determine how technology use may influence an individual's sense of time management, competence, and connectedness to others.

Discussion: The topics suggested by the commenter are consistent with the proposed priority, which requires the DRRP to contribute to the development of an inclusive cloud and Web infrastructure that incorporates options for disability access within its general structure. Nothing in the priority would preclude an applicant from proposing research in these areas. However, NIDRR does not wish to further specify the research requirements in the way suggested by the commenter because we do not want to limit the number and breadth of applications submitted under this priority. The peer review process will determine the merits of each proposal.

Change: None.

Comment: One commenter suggested that the priority address the social impact of individuals with disabilities sharing Web accessibility experiences and approaches. The commenter also suggested that the priority address research on the relationship between inclusive cloud and Web design and self-determination.



Discussion: NIDRR agrees that the social impact of cloud and Web technology is important, particularly as it affects participation and social networks. The topics suggested by the commenter may be consistent with the priority if they are framed to meet the purpose of the priority, which is to contribute to the development of an inclusive cloud and Web infrastructure that incorporates options for disability access within its general structure. This includes identifying, designing, prototyping, and assessing promising methods and systems for a cloud and Web infrastructure that addresses the needs of individuals with disabilities. For example, Table 1 of the priority includes a suggested research question, "How to enable individuals with disabilities to share accessibility experiences and approaches."

Change: None.

Comment: Three commenters stated that the needs of individuals with disabilities cannot be addressed with a sole focus on technology and that one of the primary factors limiting technology utilization for individuals with disabilities is the high poverty rate experienced by this population. The commenters noted the prohibitive costs of assistive technology required to use the Internet. The commenters recommended that the proposed priority be

revised to include a focus on the relationship between poverty and disability.

Discussion: NIDRR agrees that poverty affects technology and Web utilization by individuals with disabilities, in part because individuals with disabilities currently are required to purchase separate accessibility software and assistive devices for each device they use to access the Web. However, the DRRP on inclusive cloud and Web computing is designed specifically to contribute to the development of an inclusive cloud and Web infrastructure that incorporates options for disability access within its general structure. A more inclusive infrastructure may reduce the need for individuals with disabilities to purchase separate equipment and thereby reduce the economic burden of Web use by individuals with disabilities.

Nothing in the priority precludes an applicant from proposing research questions specific to poverty, as long as the research questions are framed to meet the purpose and requirements of the priority. However, NIDRR does not wish to further specify the research requirements in the way suggested by the commenter because we do not want to limit the number and breadth of applications submitted under this priority. The peer review process will determine the merits of each proposal.

Change: None.

Comment: Three commenters stated that the proposed priority focuses on the development of technologies and products solely for the benefit of individuals with disabilities and recommended a change to make the final priority more focused on the development of universally designed products.

Discussion: For purposes of this priority, NIDRR uses the term "inclusive cloud and Web infrastructure" to mean the same thing as a "universally designed" cloud and Web infrastructure. An inclusive cloud and Web infrastructure is one that is accessible to a wide range of individuals, including individuals with disabilities. Contributions to the development of an inclusive cloud and Web infrastructure may reduce the need for specialized adaptations or the purchase of assistive technology equipment.

NIDRR would also like to note that the purpose of the DRRP is not to develop technologies and products, as suggested by the commenter, but to develop methods of, systems for, and technical approaches to developing an inclusive cloud and Web infrastructure. The proposed priority requires the DRRP to "identify, design, prototype, and assess promising methods and systems for, and technical

approaches to designing, a cloud and Web infrastructure that addresses the needs of individuals with disabilities." If the grantee under this priority is successful in contributing to the development of a more universally-designed and inclusive cloud and Web infrastructure, there is likely to be a stronger foundation for the further development of universally designed products for widespread use, as suggested by the commenter.

Change: None.

Comment: Three commenters recommended that the final priority require research that is related to the employment of individuals with disabilities. The commenters also noted that none of the research questions included in Table 1 of the proposed priority addresses employment.

Discussion: NIDRR agrees that employment is a critical outcome for the population of individuals with disabilities. We have developed this priority because we believe that a more inclusive cloud and Web infrastructure is likely to contribute to improved employment outcomes for individuals with disabilities. With a more inclusive cloud and Web infrastructure, for example, individuals with disabilities are likely to have more direct access to the Web without the need for additional assistive technologies,

thereby creating opportunities to search and apply for jobs and engage in work online.

The priority requires applicants to address at least one of the research questions in Table 1 but also allows applicants to focus on additional research questions not reflected in Table 1. If applicants choose to focus on additional research questions, such as those related to employment, they must explain how work on the additional question or questions will advance disability access in cloud and Web infrastructure design.

In sum, nothing in the priority precludes an applicant from proposing research related to employment, as long as the research questions are framed to meet the requirements of the priority. However, NIDRR does not wish to further specify the research requirements in the way suggested by the commenters because we do not want to limit the number and breadth of applications submitted under this priority. The peer review process will determine the merits of each proposal.

Change: None.

Comment: None.

Discussion: In the proposed priority, Table 1 is located in the background section, which will not be published as part of this notice of final priority. Because the

contents of Table 1 are integral to the priority and its requirements, we are including it in the priority.

Change: NIDRR has included the text of Table 1 in the text of the final priority.

FINAL PRIORITY:

DRRP on Inclusive Cloud and Web Computing.

The Assistant Secretary for Special Education and Rehabilitative Services establishes a priority for a Disability and Rehabilitation Research Project (DRRP) on inclusive cloud and Web computing. The DRRP must contribute to the development of an inclusive cloud and Web infrastructure that incorporates options for disability access within its general structure.

To contribute to this initiative, the DRRP must--

(1) Identify, design, prototype, and assess promising methods and systems for, and technical approaches to designing, a cloud and Web infrastructure that addresses the needs of individuals with disabilities. The DRRP must address at least one of the research questions outlined in Table 1. Applicants may also choose to address additional research questions not reflected in Table 1. In that case, the application must fully explain how work on the additional topic or topics proposed by the applicant will

advance disability access in cloud and Web infrastructure design.

(2) Conduct knowledge translation activities (e.g., training, technical assistance, dissemination, collaboration) in order to facilitate use of the research results by key stakeholders (e.g., individuals with disabilities, computer scientists, other researchers and software developers working on accessibility technology, policy makers, international partners).

(3) Demonstrate meaningful involvement by key stakeholder groups (e.g., individuals with disabilities, computer scientists, software developers and researchers working on accessibility technology, policy makers, international partners) in order to maximize the relevance and usability of the research conducted under this priority. Involvement may include, but is not limited to, participation in a multidisciplinary research team, advisory board, focus group, or other participatory action research method.

Table 1. Research Questions of Importance in Developing Inclusive Cloud and Web Computing Infrastructure

Research Questions	Possible Computer Science Approaches
How to make content and interactions easier to understand for individuals	Natural language processing.

with mental disabilities.	
How to make it easier for individuals with disabilities to log on to the Web.	Authentication technology.
How to change the presentation of information on Web pages to respond to difficulties encountered by individuals with disabilities.	Adaptive user interfaces.
How to manage user profiles and accessibility options over time, as technology evolves.	Federated information management.
How to make software more easily modifiable to meet individual needs.	Software architecture.
How to improve the ability of software tools to identify accessibility problems in documents.	Automated user interface testing.
How to enable individuals with disabilities to share accessibility experiences and approaches.	Social computing.
How to incorporate specific accessibility features (e.g., closed captioning, volume control, video description, screen reader technology, accessible user interfaces) into an inclusive Web infrastructure.	Software design.

#### Types of Priorities:

When inviting applications for a competition using one or more priorities, we designate the type of each priority as absolute, competitive preference, or invitational through a notice in the Federal Register. The effect of each type of priority follows:



Absolute priority: Under an absolute priority, we consider only applications that meet the priority (34 CFR 75.105(c)(3)).

Competitive preference priority: Under a competitive preference priority, we give competitive preference to an application by (1) awarding additional points, depending on the extent to which the application meets the priority (34 CFR 75.105(c)(2)(i)); or (2) selecting an application that meets the priority over an application of comparable merit that does not meet the priority (34 CFR 75.105(c)(2)(ii)).

Invitational priority: Under an invitational priority, we are particularly interested in applications that meet the priority. However, we do not give an application that meets the priority a preference over other applications (34 CFR 75.105(c)(1)).

This notice does not preclude us from proposing additional priorities, requirements, definitions, or selection criteria, subject to meeting applicable rulemaking requirements.

Note: This notice does not solicit applications. In any year in which we choose to use this priority, we invite applications through a notice in the Federal Register.

Executive Orders 12866 and 13563

Regulatory Impact Analysis

Under Executive Order 12866, the Secretary must determine whether this regulatory action is "significant" and, therefore, subject to the requirements of the Executive order and subject to review by the Office of Management and Budget (OMB). Section 3(f) of Executive Order 12866 defines a "significant regulatory action" as an action likely to result in a rule that may--

(1) Have an annual effect on the economy of \$100 million or more, or adversely affect a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal governments or communities in a material way (also referred to as an "economically significant" rule);

(2) Create serious inconsistency or otherwise interfere with an action taken or planned by another agency;

(3) Materially alter the budgetary impacts of entitlement grants, user fees, or loan programs or the rights and obligations of recipients thereof; or

(4) Raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles stated in the Executive order.

This final regulatory action is not a significant regulatory action subject to review by OMB under section 3(f) of Executive Order 12866.

We have also reviewed this final regulatory action under Executive Order 13563, which supplements and explicitly reaffirms the principles, structures, and definitions governing regulatory review established in Executive Order 12866. To the extent permitted by law, Executive Order 13563 requires that an agency--

(1) Propose or adopt regulations only upon a reasoned determination that their benefits justify their costs (recognizing that some benefits and costs are difficult to quantify);

(2) Tailor its regulations to impose the least burden on society, consistent with obtaining regulatory objectives and taking into account--among other things and to the extent practicable--the costs of cumulative regulations;

(3) In choosing among alternative regulatory approaches, select those approaches that maximize net benefits (including potential economic, environmental, public health and safety, and other advantages; distributive impacts; and equity);

(4) To the extent feasible, specify performance objectives, rather than the behavior or manner of compliance a regulated entity must adopt; and

(5) Identify and assess available alternatives to direct regulation, including economic incentives--such as user fees or marketable permits--to encourage the desired behavior, or provide information that enables the public to make choices.

Executive Order 13563 also requires an agency "to use the best available techniques to quantify anticipated present and future benefits and costs as accurately as possible." The Office of Information and Regulatory Affairs of OMB has emphasized that these techniques may include "identifying changing future compliance costs that might result from technological innovation or anticipated behavioral changes."

We are issuing this final priority only on a reasoned determination that its benefits justify its costs. In choosing among alternative regulatory approaches, we selected those approaches that maximize net benefits. Based on the analysis that follows, the Department believes that this regulatory action is consistent with the principles in Executive Order 13563.

We also have determined that this regulatory action does not unduly interfere with State, local, and tribal governments in the exercise of their governmental functions.

In accordance with both Executive orders, the Department has assessed the potential costs and benefits, both quantitative and qualitative, of this regulatory action. The potential costs are those resulting from statutory requirements and those we have determined as necessary for administering the Department's programs and activities.

The benefits of the Disability and Rehabilitation Research Projects and Centers Program have been well established over the years, as projects similar to the one envisioned by the final priority have been completed successfully. Establishing a new DRRP based on the final priority would generate new knowledge through research and development and improve the lives of individuals with disabilities. The new DRRP would generate, disseminate, and promote the use of new information that would improve the options for individuals with disabilities to perform regular activities of their choice in the community.

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braille, large print, audiotape, or compact disc) by contacting the Grants and Contracts Services Team, U.S. Department of Education, 400 Maryland Avenue, SW., room 5075, PCP, Washington, DC 20202-2550. Telephone: (202) 245-7363. If you use a TDD or a TTY, call the FRS, toll free, at 1-800-877-8339.

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Dated: May 1, 2013.

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Michael K. Yudin,  
Delegated the authority  
to perform the functions  
and duties of the Assistant  
Secretary for Special  
Education and Rehabilitative  
Services.

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